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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/711,934	10/13/2004	Chien-Hsien Ho	ACMP0147USA	5933
27765	7590	09/18/2006	EXAMINER	
NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION			FIDLER, SHELBY LEE	
P.O. BOX 506			ART UNIT	PAPER NUMBER
MERRIFIELD, VA 22116			2861	

DATE MAILED: 09/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/711,934	HO, CHIEN-HSIEN	
	Examiner	Art Unit	
	Shelby Fidler	2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 October 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/2/06</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

The drawings are objected to because Figures 1-3 have the shaft labeled with referenced number 11, while the specification references the shaft with number 111 (paragraph 4). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claim 9 is objected to as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Lines 8-10 recite "computing a first duration by counting the time it takes the medium to move according to the

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predetermined direction so that the printhead can print on a second swath area next to the first print swath area," which is unclear since there are no definitive points in time by which the first duration begins or ends.

Claim 10 is objected to because of the following informalities: line 4 recites the phrase "wherein sum of duration," which should read "wherein a sum of duration." Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Watanabe (US 6076911).

Regarding claim 1:

Watanabe teaches a method for driving a printing device to print a first print data and a second print data on a medium, the printing device having a printhead, the medium having a first swath area and a second swath area, the method comprising:

(a) moving the printhead along a first direction toward the first swath area (col. 7, lines 7-9), and controlling the printhead to print the first print data on the first swath area (col. 7, lines 13-15); and

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(b) when the printhead has printed the first print data on the first swath area, moving the printhead to approach the second swath area along a second direction opposite to the first direction (col. 7, lines 19-24) while the medium moves along a predetermined direction (col. 7, lines col. 7, lines 13-18, 24-28).

Regarding claim 2:

Watanabe also teaches that there is a certain angle between the predetermined direction and the first direction (the directions are orthogonal as shown in Fig. 3).

Regarding claim 3:

Watanabe also teaches the step of (c) when the printhead leaves the first swath area and moves along the first direction, moving the second swath area along the predetermined direction (col. 7, lines 13-18).

Regarding claim 4:

Watanabe also teaches that in step (c) the printhead is decelerated from a first speed to a second speed (col. 7, lines 19-20).

Regarding claim 5:

Watanabe also teaches that in step (c) the printhead moves according to a steady speed (recording speed) to print the first print data (col. 7, lines 7-9).

Regarding claim 6:

Watanabe also teaches that in step (a) the printhead is accelerated from a first speed to a second speed (col. 7, lines 22-24).

Regarding claim 7:

Watanabe also teaches that step (b) further comprises controlling the printhead to stay outside the second swath area while the medium is moving (col. 9, lines 37-40); and

controlling the printhead to enter into the second swath area when the medium becomes still (col. 9, lines 40-43).

Regarding claim 8:

Watanabe does not expressly teach that the size of the first swath area is determined by a number of pixels in the first print data. However, it is known that the lengths of swath areas depend on the print data, as shown in Applicant's specification (paragraph 6, lines 8-10).

Claims 9-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Uchikata (US 6827511 B2).

Regarding claim 9:

Uchikata teaches a method for driving a printing device having a printhead, the method comprising:

(a) controlling the printhead to move along a first direction toward a first swath area of a medium, and controlling the printhead to print a print data on the first swath area according to the print data (printing of top swath in Fig. 3A);

(b) when the printhead has left the first swath area according to the first direction, driving the medium to move along a predetermined direction (col. 5, lines 13-15), computing a first duration ($T1f$) by counting the time it takes the medium to move according to the predetermined direction so that the printhead can print on a second swath area next to the first print swath area (col. 6, lines 27-33), and computing a second duration ($Tcr1 + Tcr2 =$ carriage scanning period) by counting the time it takes the printhead to move from the first print swath area to the second swath area along the second direction opposite to the first direction (col. 6, lines 34-39); and

(c) comparing the first duration with the second duration for controlling the timing when the printhead starts moving toward the second swath area according to the second direction (col. 6, lines 40-42).

Regarding claim 10:

Uchikata also teaches that step (c) further comprises:

if the first duration (T_{1f}) is longer than the second duration ($T_{cr1} + T_{cr2}$), driving the printhead to stop during a predetermined duration (T_{wait}) and then accelerate to a first speed along the second direction (col. 5, lines 40-42 and col. 6, lines 41-42), wherein the sum of duration of the predetermined duration and the second duration and the second duration is not shorter than the first duration (as shown by the equation $T_{wait} = T_{1f} - (T_{cr1} + T_{cr2})$ in col. 6, lines 41-42).

Regarding claim 11:

Uchikata also teaches that there is a certain angle between the predetermined direction and the first direction (the directions are orthogonal as shown in Fig. 1).

Regarding claim 12:

Uchikata also teaches that in step (b), the printhead leaves the first swath area according to a first speed and then the printhead is decelerated to a second speed (col. 5, lines 22-26).

Regarding claim 13:

Uchikata also teaches that in step (a), the printhead has a steady speed (Fig. 3B).

Regarding claim 14:

Uchikata also teaches that the printing device further comprises a first motor (carriage motor 311) for driving the printhead and a second motor (feeding motor 310) for driving the

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medium, and step (c) computes the first and second durations according to the driving ability of the first and second motors (col. 5, line 67 – col. 6, line 18 and col. 7, lines 2-23).

Regarding claim 15:

Uchikata also teaches that the first and second motors are stepping motors (col. 5, line 67 – col. 6, line 1).

Regarding claim 16:

Uchikata also teaches that the medium move along the predetermined direction when the printhead moves along the second direction (Fig. 3B).

Regarding claim 17:

Uchikata discloses a printing device comprising:

a printhead (printing head 206) for printing a first print data and a second print data on a first swath area and a second swath area respectively (col. 4, lines 57-60 and Fig. 3A); and

a controller (CPU 301) electrically connected to the printhead (Fig. 2) for controlling the printhead (col. 4, lines 35-41) to move along a first direction to print the first print data on the first swath area (first line; col. 4, lines 57-59), and controlling the medium to move along a predetermined direction (right arrow; Fig. 3A) and controlling the printhead to approach the second swath area (second line; col. 4, lines 57-60) along a second direction opposite to the first direction (left arrow; Fig. 3A) when the printhead has printed the first print data on the first swath area (col. 4, lines 57-61).

Regarding claim 18:

Uchikata discloses a printing device comprising:

a printhead (printing head 206) for printing a print data on a first swath area (first line; col. 4, lines 57-59) of a medium along a first direction according to the print data (right arrow; Fig. 3A); and

a controller (CPU 301) electrically connected to the printhead (Fig. 2), wherein when the printhead has left the first swath area according to the first direction, the controller controls the medium to move along a predetermined direction (col. 5, lines 13-15), computes a first duration (T1f) by counting the time it takes the medium to move according to the predetermined direction so that the printhead can print on a second swath area next to the first print swath area (col. 6, lines 27-33), computes a second duration ($T_{cr1} + T_{cr2}$ = carriage scanning period) by counting the time it takes the printhead to move from the first print swath area to the second swath area along the second direction opposite to the first direction (col. 6, lines 34-39), and compares the first duration with the second duration for controlling the timing when the printhead starts moving toward the second swath area according to the second direction (col. 6, lines 40-42).

Communication with the USPTO

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shelby Fidler whose telephone number is (571) 272-8455. The examiner can normally be reached on MWF 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vip Patel can be reached on (571) 272-2458. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

 9/14/06

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